

# Monetary Stability

The Hong Kong dollar interest rates broadly picked up during 2018, while the Hong Kong dollar spot exchange rate eased and stayed close to the weak-side Convertibility Undertaking. Nevertheless, the Hong Kong dollar exchange and money markets functioned in a smooth and orderly manner. The Linked Exchange Rate System has been the cornerstone of Hong Kong's monetary and financial stability and has shown to be resilient to various shocks.



## OBJECTIVES

The overriding objective of Hong Kong's monetary policy is currency stability. This is defined as a stable external exchange value of Hong Kong's currency, in terms of its exchange rate in the foreign-exchange market against the US dollar, within a band of HK\$7.75–7.85 to US\$1. The structure of the monetary system is characterised by Currency Board arrangements, requiring the Monetary Base to be at least 100% backed by US dollar reserves held in the Exchange Fund, and changes in the Monetary Base to be 100% matched by corresponding changes in US dollar reserves.

The Monetary Base (Table 1) comprises:

- Certificates of Indebtedness, which provide full backing to the banknotes issued by the three note-issuing banks
- Government-issued notes and coins in circulation
- the Aggregate Balance, which is the sum of banks' clearing account balances kept with the HKMA
- Exchange Fund Bills and Notes (EFBNs) issued by the HKMA on behalf of the Government.

**Table 1 Monetary Base**

HK\$ million	31 December 2018	31 December 2017
Certificates of Indebtedness <sup>1</sup>	<b>483,845</b>	455,715
Government-issued currency notes and coins in circulation <sup>1</sup>	<b>12,592</b>	12,186
Balance of the banking system	<b>78,584</b>	179,790
EFBNs issued <sup>2</sup>	<b>1,059,801</b>	1,047,244
<b>Total</b>	<b>1,634,822</b>	1,694,935

1. The Certificates of Indebtedness and the government-issued currency notes and coins in circulation shown here are stated at Hong Kong dollar face values. The corresponding items shown in the balance sheet of the Exchange Fund in this Annual Report are in Hong Kong dollars equivalent to the US dollar amounts required for their redemption at the prevailing exchange rates on the balance sheet date. This arrangement is in accordance with the accounting principles generally accepted in Hong Kong.
2. The amount of EFBNs shown here refers to their fair value. In accordance with the accounting principles generally accepted in Hong Kong, the EFBNs held by the HKMA on behalf of the Exchange Fund in relation to its trading of the EFBNs in the secondary market are offset against the EFBNs issued, and the net amount is recorded in the balance sheet. The EFBNs allotted on tender dates but not yet settled are included in the balance sheet but excluded from the Monetary Base. Therefore, the amount of EFBNs shown here is different from that in the balance sheet of the Exchange Fund in this Annual Report.

The stability of the Hong Kong dollar exchange rate is maintained through an automatic interest rate adjustment mechanism and the firm commitment by the HKMA to honour the Convertibility Undertakings (CUs). When the demand for Hong Kong dollars is greater than the supply and the market exchange rate strengthens to the strong-side CU of HK\$7.75 to one US dollar, the HKMA stands ready to sell Hong Kong dollars to banks for US dollars. The Aggregate Balance will then expand to push down Hong Kong dollar

interest rates, creating monetary conditions that move the Hong Kong dollar away from the strong-side limit to within the Convertibility Zone of 7.75 to 7.85. Conversely, if the supply of Hong Kong dollars is greater than the demand and the market exchange rate weakens to the weak-side CU of HK\$7.85 to one US dollar, the HKMA stands ready to buy Hong Kong dollars from banks. The Aggregate Balance will then contract to drive Hong Kong dollar interest rates up, pushing the Hong Kong dollar away from the weak-side limit to stay within the Convertibility Zone.

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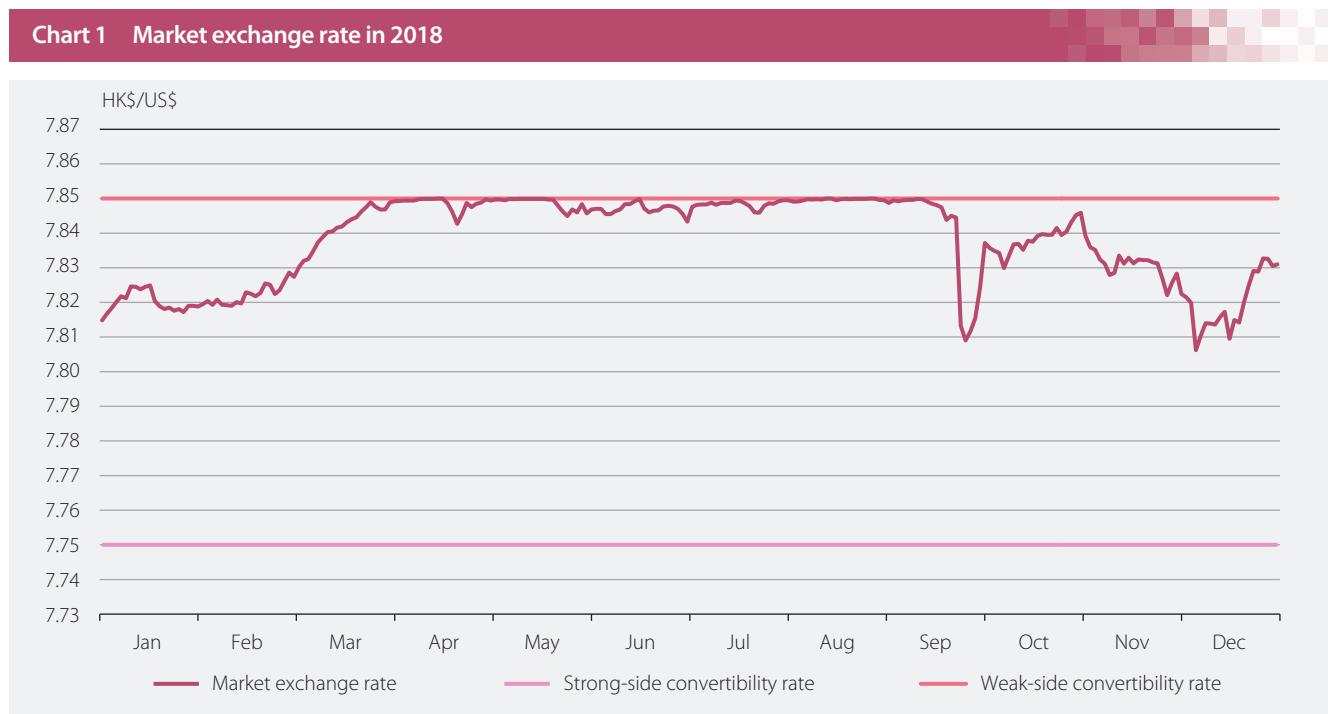
## REVIEW OF 2018

### Exchange rate stability

Driven mainly by interest carry trade activities amid widened negative Hong Kong dollar-US dollar interest rate spreads, the Hong Kong dollar had been easing gradually against the US dollar since the beginning of the year. On 12 April, the weak-side CU was triggered for the first time since it was set at the 7.85 level in 2005. Overall, the weak-side CU was triggered 27 times in 2018, with 13 times in April, six times in May and eight times in August. Nonetheless, the Hong

Kong dollar remained trading in a smooth and orderly manner near the weak-side CU rate of 7.85 between mid-April and mid-September (Chart 1). Thereafter, the Hong Kong dollar exchange rate regained some strength. This in part reflected some squaring of interest carry trade positions amid a tightening of interbank liquidity as the holiday periods, quarter-end, and year-end approached. The Hong Kong dollar to some extent was also underpinned by the improved stock market sentiment in early November. Overall, the Hong Kong dollar exchange market functioned normally throughout 2018.

**Chart 1 Market exchange rate in 2018**



## Monetary Stability

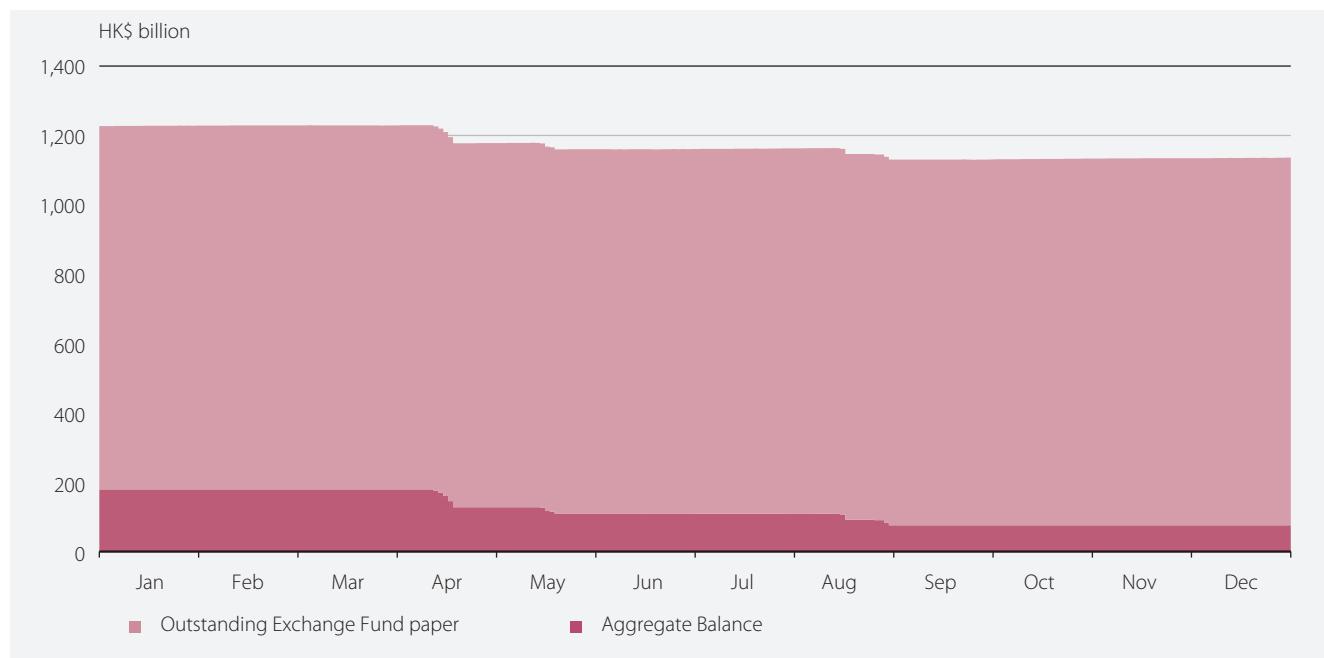
Due to the triggering of the weak-side CU, the sum of the Aggregate Balance and outstanding EFBNs decreased from HK\$1,226.8 billion at the end of 2017 to HK\$1,136.2 billion at the end of 2018 (Chart 2). During the year, the HKMA purchased a total of HK\$103.5 billion at the request of banks at the weak-side CU of 7.85 in accordance with the design of

the Linked Exchange Rate System (LERS), leading to a contraction of the Aggregate Balance from HK\$179.8 billion at the end of 2017 to HK\$76.4 billion at the end of 2018. The outstanding EFBNs stayed little changed during the year. The Monetary Base as a whole remained fully backed by foreign exchange reserves.

Total Aggregate Balance and outstanding Exchange Fund Bills and Notes at **HK\$1,136.2 billion** at end-2018.



**Chart 2 Aggregate Balance and outstanding Exchange Fund papers in 2018**



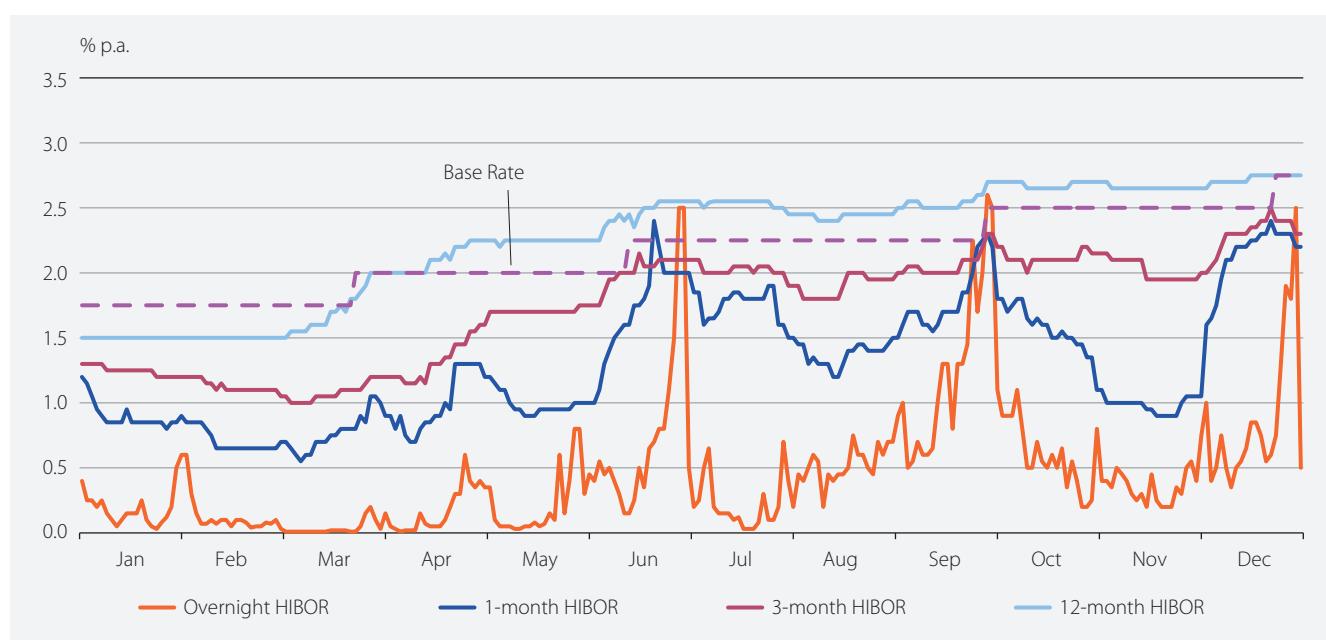
## Monetary Stability

### Money market

Due to the reduced interbank liquidity following the triggering of the weak-side CU as well as market expectations of US interest rate hikes, the Hong Kong dollar interbank interest rates generally picked up throughout 2018. In particular, the short-term interbank rates witnessed more fluctuations amid increased initial public offering-related funding demand and seasonal liquidity needs (Chart 3). Overall, short-dated interbank rates mostly traded below the Base Rate in 2018. As the funding cost of the banking system increased, banks raised their Best Lending Rates by 12.5–25 basis points following the increase in the target range for the US federal funds rate in late September.

The Base Rate was adjusted upwards on 22 March, 14 June, 27 September and 20 December by a total of 100 basis points, from 1.75% at the end of 2017 to 2.75% at the end of 2018, as the target range for the US federal funds rate moved upwards four times by a total of 100 basis points, from 1.25–1.50% to 2.25–2.50% during the year. The adjustment of the Base Rate was in accordance with the revised formula announced on 26 March 2009, which sets the Base Rate at either 50 basis points above the lower bound of the prevailing target range for the US federal funds rate or the average of the five-day moving averages of the overnight and one-month Hong Kong Interbank Offered Rates (HIBORs), whichever is higher.

**Chart 3 Hong Kong dollar interbank interest rates in 2018**



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Roughly tracking the movements of the Hong Kong dollar-US dollar interest rate spreads, the discounts of the Hong Kong dollar forward points widened during the first four months, with the 12-month Hong Kong dollar forward points reaching about -620 pips in mid-April (Chart 4). The discounts of the Hong Kong dollar forward points then

narrowed slightly along with the narrowing of the negative Hong Kong dollar-US dollar interest rate spreads, before widening again in the fourth quarter. Overall, Hong Kong's money markets continued to function normally. Discount Window borrowing increased to HK\$40.2 billion in 2018 from HK\$10.3 billion in 2017.

**Chart 4 Hong Kong dollar forward points in 2018**



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### The Linked Exchange Rate System



The LERS has been the cornerstone of Hong Kong's monetary and financial stability since its establishment in 1983, and has proved to be highly resilient in a series of regional and global financial crises. As part of the design of the LERS, the 7.85 weak-side CU was repeatedly triggered in April, May and August amid easing of the Hong Kong dollar. The outflow of funds from the Hong Kong dollar was a normal and inevitable process for Hong Kong dollar interest rate normalisation under the LERS. In order to promote better understanding of such operations as well as the mechanism of the LERS, the HKMA relentlessly explained the technical details of the LERS to the public and highlighted the robustness of Hong Kong's financial system against shocks.<sup>1</sup> The Government is also firmly committed to the LERS. Public confidence in the Government's commitment and the use of the Hong Kong dollar as a means of payment and storage of value were further reinforced by the stability in the foreign exchange and money markets. In its 2018 Article IV consultation with Hong Kong, the International Monetary Fund reaffirmed its support for the LERS, commenting that the LERS remained the appropriate exchange rate arrangement for Hong Kong and had served as an anchor of stability, assisting in ensuring sustained growth, competitiveness, and the smooth functioning of the extensive financial services industry.

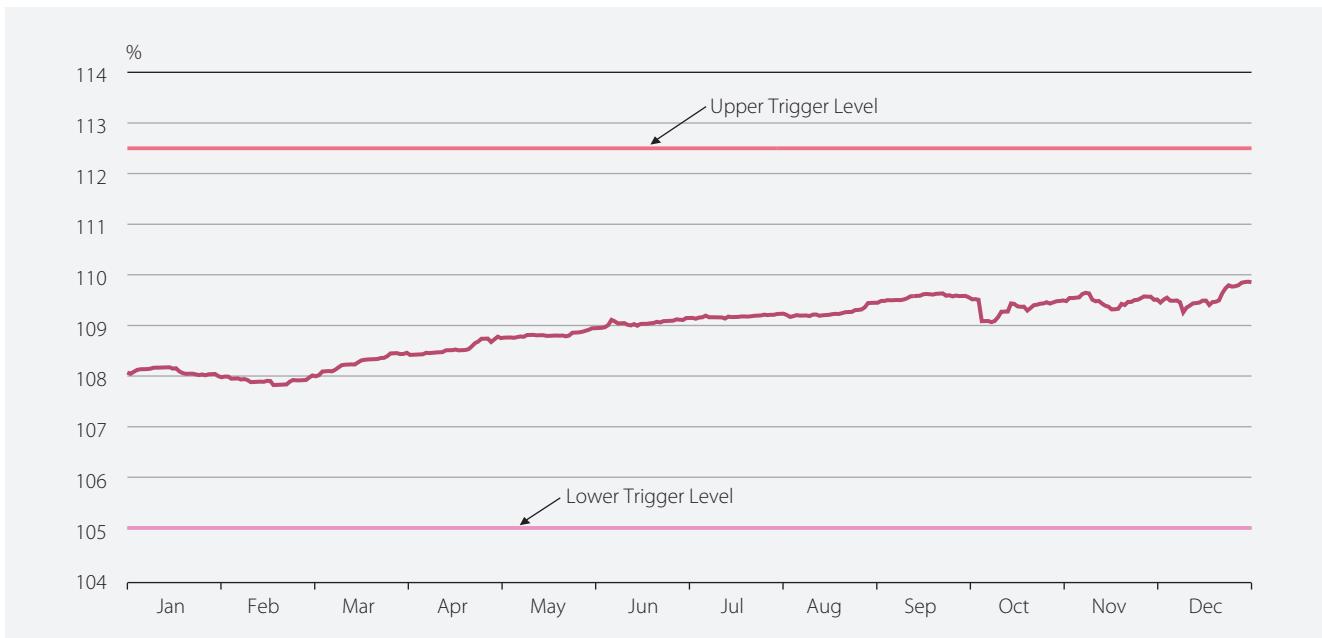
As a sound banking system is crucial to the normal functioning of the LERS, the HKMA continued to monitor closely banks' management of credit, liquidity and interest rate risks and stress-test results, and maintained its supervisory efforts on corporate, property-related and Mainland-related lending to ensure the resilience of the banking sector. The banking sector is holding a vast amount of Exchange Fund papers, which can be used by banks to obtain Hong Kong dollar liquidity via the Discount Window, serving as an effective cushion against any excessive volatility in interest rates. The HKMA stands ready to calibrate the issuance of Exchange Fund papers to release liquidity in order to deal with a possible sharp outflow from the Hong Kong dollar. The HKMA also reminded the public to manage market and interest rate risks prudently and be well prepared for market volatilities.

To improve the transparency of the Currency Board Account, a specific portion of Exchange Fund assets has been allocated to back the Monetary Base since October 1998. The Backing Ratio, defined as the Backing Assets divided by the Monetary Base, moved within a range of 107.8–109.9% during 2018, without touching the Upper or Lower Trigger Level. The ratio closed at 109.9% on 31 December (Chart 5). Under the LERS, while specific Exchange Fund assets have been designated for the Backing Portfolio, all Exchange Fund assets are available to support the Hong Kong dollar exchange rate. In the event of abrupt shocks, the sizeable amount of financial resources of the Exchange Fund will provide a powerful backstop in protecting Hong Kong's monetary and financial stability.

<sup>1</sup> See, for example, the inSight articles "Stay Calm on the Weakening of the Hong Kong Dollar" published on 8 March, "The Linked Exchange Rate System Staying Robust with Local Interest Rates Gradually on the Rise" published on 24 April, and "Hong Kong Dollar Fund Flows" published on 24 May.

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Chart 5 Daily movement of the Backing Ratio in 2018



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## Currency Board Sub-Committee

The Currency Board Sub-Committee (CBC) of the Exchange Fund Advisory Committee monitors and reviews issues relevant to monetary and financial stability in Hong Kong. In 2018, the CBC considered issues including the potential impact of joint unwinding of unconventional monetary policies on the US dollar loans of foreign banks in Hong Kong, the interest rate sensitivity of Hong Kong dollar money demand, and the mechanism and theory of the LERS operations since the three refinements. Records of the CBC's discussions on these issues and the reports on Currency Board operations submitted to the CBC are published on the HKMA website.

## Research

The Hong Kong Institute for Monetary Research (HKIMR) continued to sponsor research in the fields of monetary policy, banking and finance. Over the past four years, the HKIMR has been re-orienting its activities to have a stronger policy focus. This is reflected, in particular, in its conference activities and visiting fellowship programmes. The HKIMR has been collaborating with major central banks and policy institutions to jointly organise more policy-focused conferences. Meanwhile, the thematic research fellowship programme introduced in 2016 has been supporting more research projects related to policy issues that are of importance to the HKMA.

In 2018, the HKIMR hosted 16 research fellows and published 25 working papers. It also organised four international conferences and workshop during the year:

- The Ninth Annual International Conference on the Chinese Economy in January, under the title "China's Real Estate Market and Implications for Economic and Financial Stability". It was jointly organised by the HKIMR, Institute of Market Economy of the Development Research Centre of the State Council, and Financial Research Institute of the People's Bank of China, to discuss issues and risks related to Mainland's real estate market.

- The joint conference organised by the HKMA and the Bank for International Settlements (BIS), titled "Exchange Rates and Monetary Policy Frameworks", in October. This conference is part of the celebration of the 20th anniversary of the BIS Asia Pacific Office in Hong Kong, to discuss the role of the exchange rate in the monetary policy framework.
- The 2018 Annual Central Bank Conference on the Microstructure of Financial Markets in November. The conference discussed theoretical work, empirical findings and policy implications related to recent developments in the microstructure of financial markets.
- The China Expert Network (CEN) Workshop on "The Chinese Economy in the New Era" in November, jointly sponsored by the HKMA, the European Central Bank, and the Federal Reserve Board of Governors. It discussed the foremost questions confronting the Mainland economy and their implications for the global economy, with a special interest in policy-related topics of relevance to central bank policymakers. This was the first time that a CEN workshop was held outside of Europe.

Besides, the HKIMR held 19 public seminars during the year covering a broad range of economic, monetary and financial issues.

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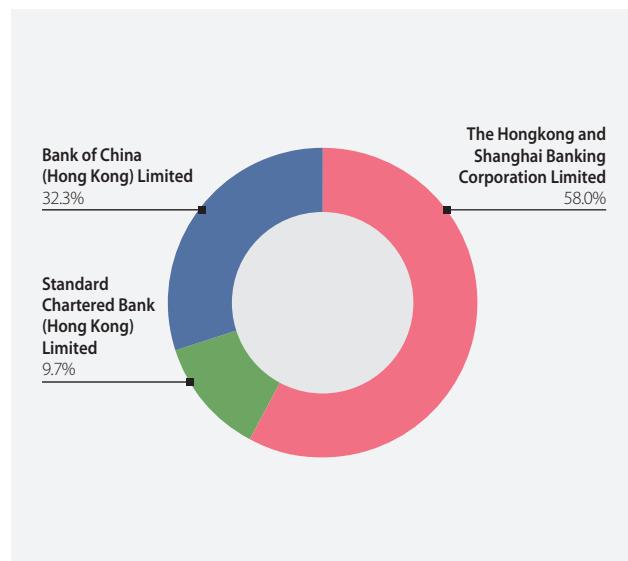
### Notes and coins



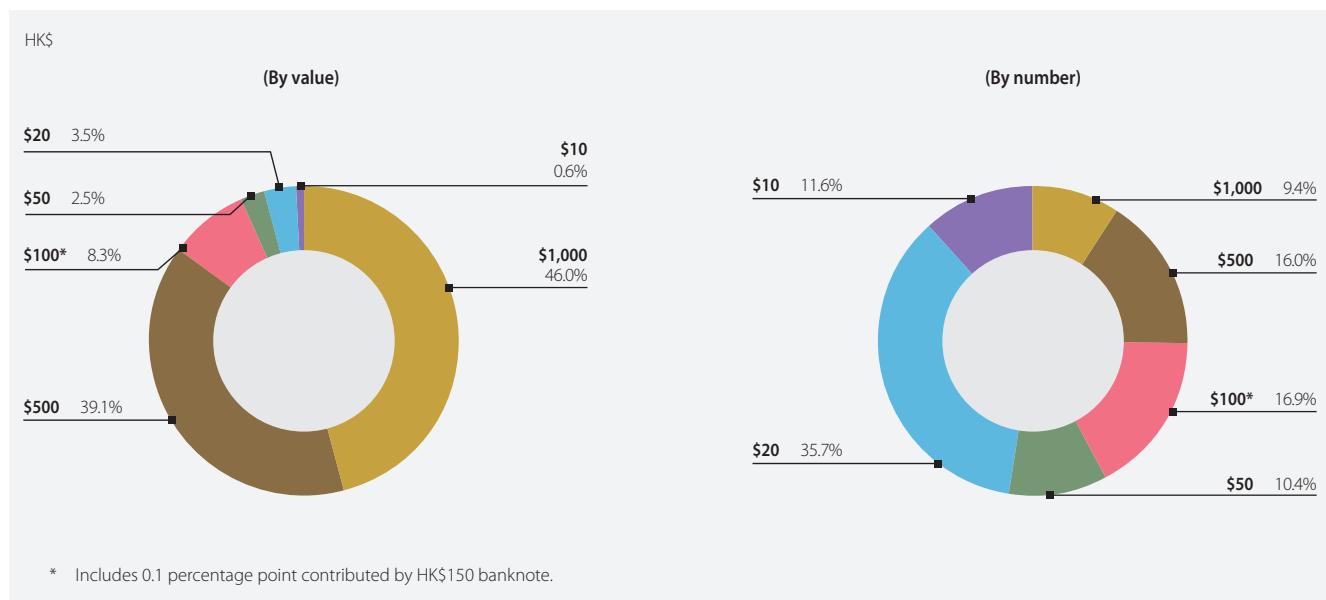
At the end of 2018, the total value of banknotes (notes issued by note-issuing banks) in circulation was HK\$483.8 billion, an increase of 6.2% from a year earlier (Charts 6, 7 and 8).

The total value of government-issued notes and coins in circulation amounted to HK\$12.4 billion, up 3.4% (Charts 9 and 10). Among the government-issued notes and coins, the value of HK\$10 notes in circulation amounted to HK\$4.5 billion, 85% of which were polymer notes.

**Chart 6** Banknotes in circulation by note-issuing banks at the end of 2018

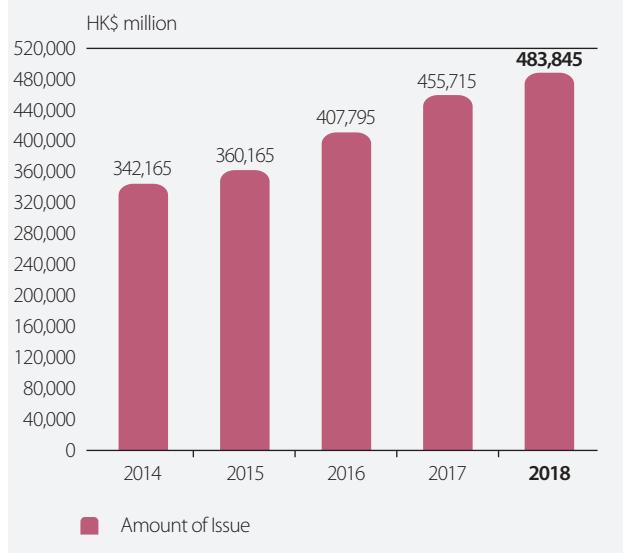


**Chart 7** Distribution of banknotes in circulation at the end of 2018

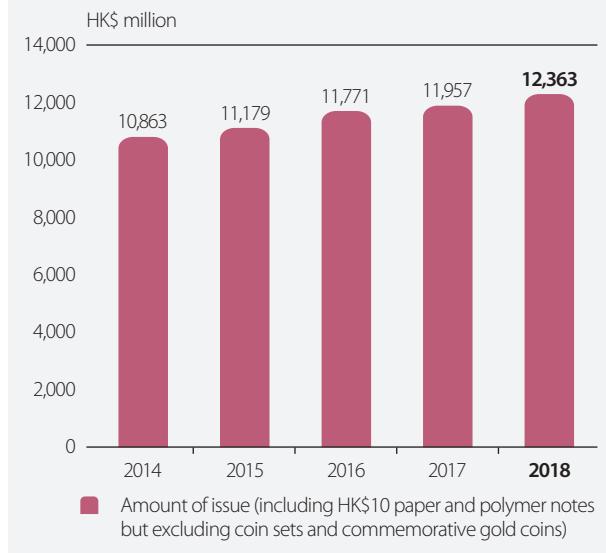


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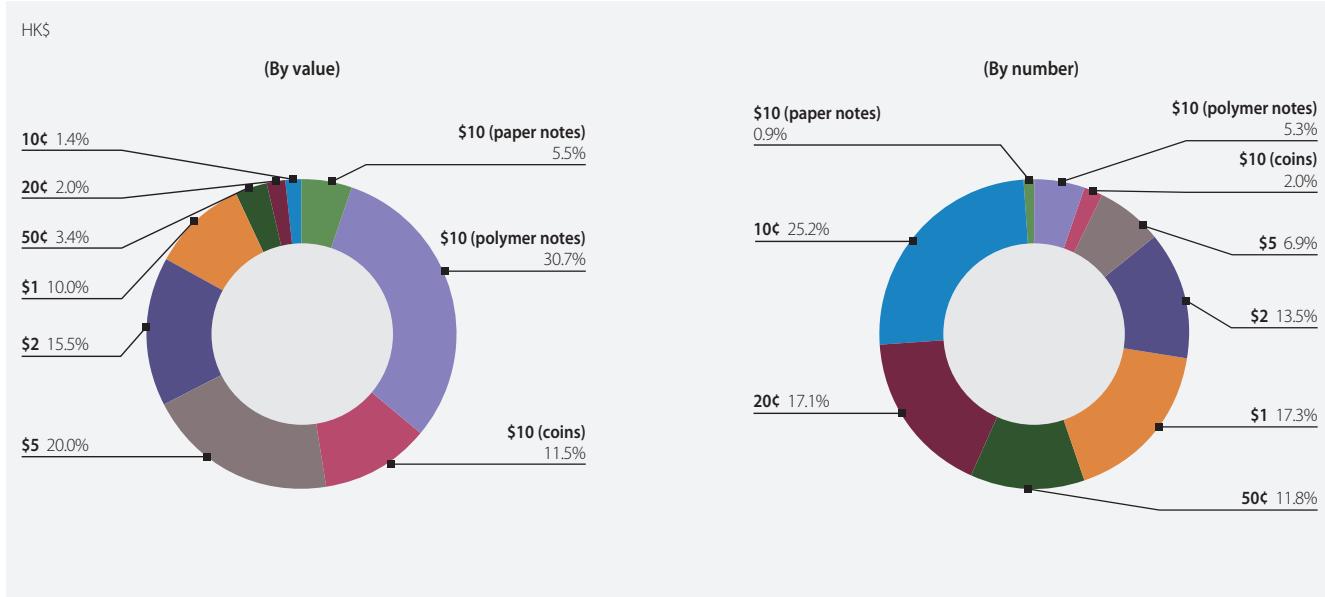
**Chart 8** Banknotes in circulation at the end of 2018



**Chart 9** Government-issued notes and coins in circulation at the end of 2018



**Chart 10** Government-issued notes and coins in circulation at the end of 2018



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### New series of Hong Kong banknotes

The HKMA and the three note-issuing banks announced in July the issue of a new series of banknotes. The new HK\$1,000 banknotes entered circulation in December and the other four denominations, (i.e. HK\$500, HK\$100, HK\$50 and HK\$20 banknotes) will go into circulation between 2019 and 2020.

It is the first time that the thematic subjects on the reverse side of Hong Kong banknotes are standardised for each denomination, which facilitates easy recognition by the public. The selected thematic subjects represent different aspects of Hong Kong as an international metropolis, featuring its rhythm of life, recreation and entertainment, as well as its rich natural and cultural heritage. The five denominations depict respectively the position of Hong Kong as an international financial centre (HK\$1,000), the spectacular Hong Kong UNESCO Global Geopark (HK\$500), Cantonese opera as the city's art and cultural legacy (HK\$100), butterflies that inhabit Hong Kong (HK\$50), and the popular dim sum and tea culture (HK\$20). For the purposes of aesthetic presentation of the thematic subjects and easy distinction from previous series, the reverse side of the banknotes is designed in vertical orientation instead of the traditional horizontal layout.

The new banknotes carry advanced security features to ensure that they are resilient to imitation and easy to recognise. These include the dynamic shimmering pattern and windowed metallic thread, which match each other in respect of the colour and provide similar dynamic visual effect.

For people with visual impairment, in addition to the accessibility features on the new banknotes, such as braille and tactile lines, they can also use a new mobile application "HK\$ Reader", which was developed by the Hong Kong Society for the Blind and sponsored by the HKMA, to identify the denominations of Hong Kong banknotes using their smartphones.



*The thematic designs of 2018 New Series Hong Kong Banknotes are introduced at the HKMA Information Centre.*



*Financial Secretary, Mr Paul Chan (middle), and HKMA Chief Executive, Mr Norman Chan (left), watch a demonstration on identifying the denomination of Hong Kong banknotes by the mobile application "HK\$ Reader".*

#### Public education

During the year, the HKMA provided 36 seminars for over 4,000 bank tellers, retailers and students to raise their awareness of Hong Kong banknotes. The HKMA also launched a publicity campaign for the new series of banknotes, including roving exhibitions in six districts, an educational mobile application, and the deployment of student ambassadors to shopping centres to distribute publicity leaflets.

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### Coin Collection Programme

The Coin Collection Programme, launched in October 2014, continued to be well received by the public. It is the world's first structured coin collection scheme, with two mobile trucks, known as Coin Carts, visiting the public across all 18 districts of Hong Kong on a rotational basis. Each Coin Cart is equipped with two high-speed coin counting machines. The public may choose to exchange their coins for banknotes, top up their stored value facilities such as Octopus cards or e-wallets, or donate the coins to the Community Chest box on board. Collaborating with the Hong Kong Council of Social Service, the Coin Carts collected coins on flag days for non-governmental organisations. The Coin Carts also visited schools to raise students' awareness of the programme.

Up to end-2018, the two Coin Carts have served about 528,000 people and collected 436 million coins with a total face value of HK\$608 million since inception. Details of the programme and its up-to-date information, including the service schedule, are available on a designated page of the HKMA website ([coincollection.hkma.gov.hk](http://coincollection.hkma.gov.hk)).

### Exchange Fund Bills and Notes

The EFBN Programme continued to operate smoothly. At the end of 2018, the nominal amount of outstanding Exchange Fund papers stood at HK\$1,062.7 billion (Table 2).

**Table 2 Outstanding issues of EFBNs**

HK\$ million	2018	2017
<b>Exchange Fund Bills (by original maturity)</b>		
28 days	800	2,200
91 days	624,015	605,779
182 days	354,000	351,000
364 days	51,700	51,700
<b>Sub-total</b>	<b>1,030,515</b>	1,010,679
<b>Exchange Fund Notes (by remaining tenor)</b>		
1 year or below	10,400	10,400
Over 1 year and up to 3 years	8,000	12,000
Over 3 years and up to 5 years	5,000	3,800
Over 5 years and up to 10 years	7,600	9,200
Over 10 years	1,200	2,400
<b>Sub-total</b>	<b>32,200</b>	37,800
<b>Total</b>	<b>1,062,715</b>	1,048,479

The Coin Carts have collected **436 million** pieces of coins with a total face value of **HK\$608 million** since inception.



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### PLANS FOR 2019 AND BEYOND



Developments in the global financial environment will likely be more challenging in 2019. Uncertainties arising from the developments of the US-China trade conflict and the Brexit negotiation will inevitably linger stepping into 2019. These, together with a global economic slowdown and evolving geopolitical risks, will weigh on investment and business sentiment across the globe. Against this backdrop, Hong Kong may see heightened volatility in asset markets, which will pose more downside risks to the domestic economy.

Given heightened uncertainties, the HKMA will continue to closely monitor risks and vulnerabilities in the domestic and external environments and stand ready to deploy appropriate measures where necessary to maintain Hong Kong's monetary and financial stability. Research programmes in 2019 will study issues affecting the Hong Kong economy and assess their potential risks. The CBC will continue to examine issues relevant to Hong Kong's monetary and financial stability, review the technical aspects of the Currency Board arrangements and, where appropriate, recommend measures to strengthen them.